



Complete, Integrated Embedded Software Debug Environment

The CAD-UL XDB debugger option combines the PowerPack trace and triggering emulator features with the CAD-UL high level language debugger. It is specifically designed for C and C++ debugging of full protected mode embedded designs.

With this package, you get the XDB debugger along with the CAD-UL LINK386 linker/locator package. The linker/locator has all the utilities and startup code you need to develop an embedded design using one of the popular compilers on the market, such as Microsoft® Visual C++ or Borland® C++ compilers. If you need a more integrated embedded environment, the CAD-UL C or C++ compilers and Workbench can be easily added.

XDB Debugger Features

- Display and modify GDT, LDT, and IDT tables and CPU control registers interactively in an easy to use bitfield editor
- Flexible run mode, lets you execute by single source steps, instruction steps, run to a specified location, execute into a called function, or execute through a function to the return
- View, set, and modify register values with a mouse click
- Use processor breakpoint register to set breakpoints and watchpoints in ROM and view watchpoints in real-time



- Set conditional breakpoints to stop execution on specific conditions, such as when a variable reaches a desired value
- Specify debugger commands to be processed when a breakpoint occurs
- Use the extensive C like scripting language to write your own debug scripts
- Watchpoint feature lets you stop the program when a specified memory location is accessed
- Call stack dialog shows function call hierarchy and lets you quickly change scope of source and symbols available to the debugger
- View and modify values of local variables, complex data structures, and pointers with an easy-to-use dialog box
- Use the symbol browser to view class types and structures
- Predefined tool buttons for frequently used commands



- User definable buttons can be created for your own unique commands
- Display or modify memory by specifying a selector offset or physical address

C++ Features

- Support for C++ features such as function overloading, symbol demangling, virtual functions and multiple inheritance
- Expandable type viewer (class browser) lets you view complex type declarations like classes, structures and arrays in tree form

Analyze C++ class objects within a browser



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CAD-UL® XDB Interface for PowerPack® In-Circuit Emulators

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- Debug member variables and methods in C++ classes
- Symbol browser displays function parameters to identify and debug overloaded functions, operators, and constructors
- Double click on the method in the type browser or evaluation window and source code window is updated for that method
- Prototype definitions can be used in XDB commands

LINK386 Cross Linker and System Builder

- Combines input modules into one output module (OMF386 format)
- Supports Linkable, Loadable or Bootloadable OMF286 and/or OMF386 files generated by CAD-UL compilers or LINK386
- Supports multi-segment protected model with CAD-UL compiler
- Memory models: FLAT, SMALL, SMALL-ROM, COMPACT and LARGE
- Easy adjustments to GDT, IDT and LDT tables
- Definition of the Task State Segment (TSS)
- Creation of page tables in the buildfile
- Support of export files

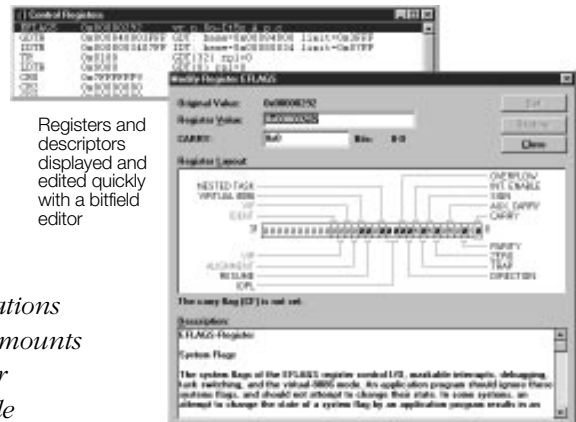
- Works with third party compilers (Borland, Microsoft, Watcom, Metaware, and Intel)
- Support for C/C++, PL/M, Pascal and Assembly language
- Supports global optimizations which eliminate large amounts of common code in your application, such as code generated using templates
- Supports initialization of static C++ objects
- Supports symbol names up to 65,535 characters in length

Processors/Emulators Supported

Microtek PowerPack SW Plus, EA and ITP models for --
AMD Am486™, Intel 386™EX, 486™
DX/DX2/DX4, National NS486™,
Intel Pentium® and Pentium II

Host-Emulator Communication

RS-232 serial (up to 115K baud)
Ethernet (option) using PowerPack
Network PCMCIA card (10Base2,
10Base5, or 10BaseT)



Compilers and Assemblers Supported

CAD-UL C/C++, and Assembler
Intel ASM-286/386, PL/M-286/386,
Intel iC-286/386, Microsoft C/C++,
Borland C/C++, Metaware High C
and Watcom C/C++

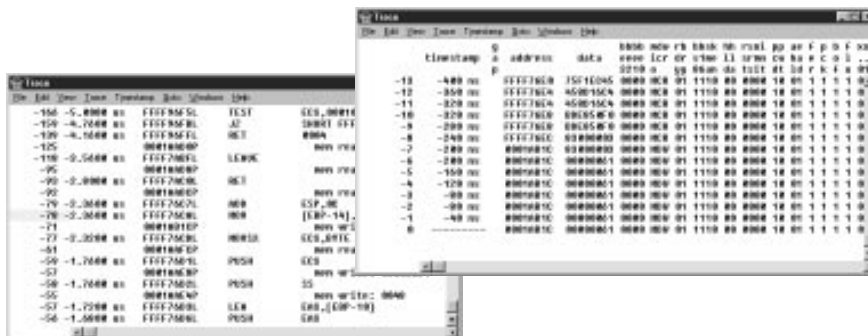
Code Coverage and Performance Analysis

Available low-cost SWAT™ software
analysis tool for hardware-based,
real time, and non-intrusive analysis
with no source instrumentation
required.

Windows® 95 Operating System

Order CodeCADUL-XDB

PowerPack instruction trace with linked source cursor and clock level trace features combined with XDB debugging features. See PowerPack brochures for more information.



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